DOCUMENT RESUME

ED 414 730 FL 024 812

AUTHOR Khym, Hangyoo; Kookiattikoon, Supath
TITLE Functional Projections and Event Structure.
PUB DATE 1997-00-00
NOTE 22p.; For complete volume of working papers, see FL 024 807.
PUB TYPE Journal Articles (080) -- Reports - Evaluative (142)
JOURNAL CIT Kansas Working Papers in Linguistics; v22 n1 p73-93 1997
EDRS PRICE MF01/PC01 Plus Postage.
DESCRIPTORS Dutch; Finnish; Foreign Countries; German; Hebrew; Italian; *Language Patterns; Language Research; *Linguistic Theory; Structural Analysis (Linguistics); *Syntax; Uncommonly Taught Languages; *Verbs

ABSTRACT

Previous theory concerning the variable behavior verbs in unaccusative/unergative alternation in Dutch, Hebrew, and Italian, which concludes that the unergative/unaccusative distinction is not syntactic but aspectual/semantic, is challenged. Discrepancies and inconsistencies are found in the grammatical functions of aspectual functional projections according to this theory, and other arguments are found for some patterns. A new structure is proposed for the event aspectual syntax. Arguments are made against the Partitive Case Hypothesis and against some observations on the different syntactic behavior between definite/specific noun phrase objects and indefinite/non-specific noun phrase objects in German and Finnish. Contains 14 references. (MSE)

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Functional Projections and Event Structure

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Khym, Hangyoo/ Supath Kookiattikoon
University of Kansas

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Abstract: The variable behavior verbs in unaccusative/unergative alternation in Dutch, Italian, and Hebrew led Borer(1993) to deny the "lexical-entry-driven approach. Following Van Valin(1990), she concludes that the unaccusative/unergative distinction is altogether not a syntactic one, but rather an aspectual/semantic one. Thus, for her, the distinction is completely dependent on the properties of the entire predicate, of which the meaning of the verb is just one part. In this paper, we point out some theoretical problems in Borer(1993)'s radical suggestion and suggest a solution.

0. Introduction

By focusing on the variable behavior verbs[1] in unaccusative/unergative alternation observed in Dutch ,Italian, and Hebrew, Borer (1993) denies "the lexical-entry-driven approach" which says that lexical entries determine the projection of specific arguments.[2] Further, following Van Valin (1990), she observes that syntactic unaccusative diagnostics are associated with telic and non-agentive characteristics, and syntactic unergative diagnostics are typically associated with agentive interpretation. Based on these observations, she finally concludes that "the unaccusative/unergative distinction is altogether not a syntactic one, but rather, an aspectual/semantic one." Thus, according to her, the distinction is completely dependent on the properties of the entire predicate, of which the meaning of the verb is just one part.

Though Borer's radical approach has a great insight into the controversial issue of the classification of verb types, it has some defects concerning the separation of adjunct PP's from argument PP's, the projection of a functional aspectual category closely related with Case assignment, and the functions of the two functional categories. To solve these problems, we will maintain the split of Borer's aspectual functional projection $ASP\pm_{EM}P$ into two independent functional projections such as AGR_OP and $ASP_{EM}P$. The detailed conditions on derivation under the new structure will be added in section 3.

1. Aspectual but not syntactic difference between directional PPs

Borer's (1993) point of view against the distinction of intransitives is clearly shown in the following quotation:

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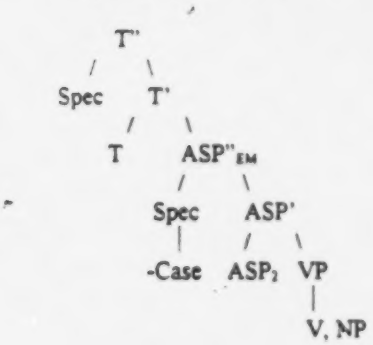
> " ...concerning the unaccusative/unergative alternation ... [V]erbs are not basically unaccusatives or unergatives, nor are they specified as projecting an internal or an external argument respectively. Rather, all are intransitive, and in accordance with the basic meaning of the verb, plus whatever other material resides in the predicate, a predicate would be assigned specific aspectual (AKTIONSART) properties, and the syntactic properties would then follow. ..." (Borer 1993, p.4)

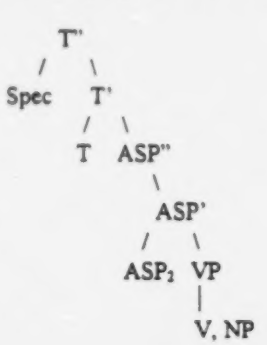
That is, the single argument of verbs such as *run, wilt, disappear* is not specified as 'external', 'internal', nor are there any syntactic linking conventions in lexical entries associated with the projection of arguments. They are just intransitives with one argument. And a maximal projection, the VP, is "projected containing unprojected and hence unordered and unhierarchical argument(s)."[3] Aspectual roles from the entire predicate which is gained in a compositional way, then, decide on the configuration of the sentence given. The structures Borer suggests for intransitives are as follows:

1) Structures for Intransitives (ibid., p.p. 9-10)

(a) Unaccusatives
:Spec projected, no Case assigned.



(b) Unergatives
:Spec not projected, Case not available



The movement of argument(s) under the VP is caused by the necessity of Case. As we clearly see from the above, the syntactic distinction between unergatives and unaccusatives is not available until the maximal category VP projects further. And the projection of the structure is entirely dependent on the aspectual role(s) which is(are) given from the compositional meaning of the entire predicate.
Thus, when there is an aspectual role of Event Measure as in (1a), the verb belongs to the unaccusative class and when there is none, then the verb belongs to the unergative class as is shown in (1b).
Then we can raise the question : "How can we get aspectual role(s) from the lexical entries?." Within Borer's framework, it seems to be completely up to the speaker's parsing of the event which is expressed by the entire predicate.

Consider Borer's explanation of the alternation of the intransitive '*run*' for example:

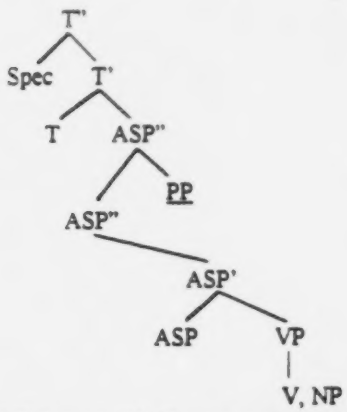
"...Turning now to intransitive motion verbs such as *run*, note that certainly they do not imply a delimitation. However, the argument of such a verb, other than being interpreted potentially as an AGENT, can also be interpreted as a MEASURE. Specifically, in *John ran*, *John* could be understood as measuring out the running event. ..." (ibid., p. 12)

Therefore, the subject of *run* may be either a MEASURE, in which case *run* is unaccusative, or a non-MEASURE in which case *run* is unergative, depending on whether derivation (1a) or (1b) is pursued.
Now, based on the argument so far, let us consider the following sentences:

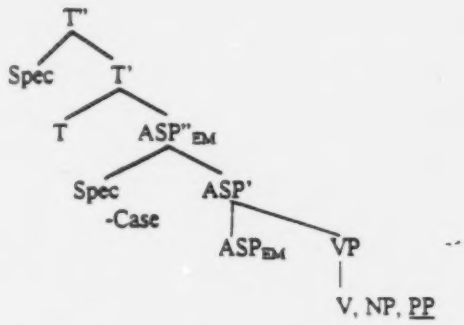
(2) a. John ran in the park.
b. John ran to the park.

According to Borer's explanation, the PPs in (2) are different from each other: '*in the park*' in (2a) is an adjunct, while '*to the park*' in (2b) is an argument.[4] Thus, their syntactic positions are distinct.[5] The structures are shown in (3):

(3) a. (=2a)



b. (=2b)



In addition to (3), Borer suggests the following assumption:

(4) Whatever stays in the VP incorporates semantically (and at times syntactically as well). (ibid., p. 13)

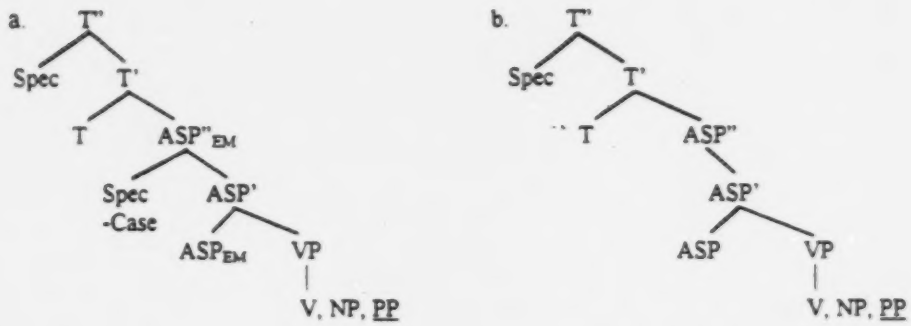
Semantic incorporation in (4) would mean to "enter the PP argument, as a delimiter, into the interpretation of the ASPP subpredicate in structures as (2b)", while an adjunct does not enter the interpretation in a similar fashion.[6]

From the condition (4) and the structural difference of PPs in (2), '*in the* park' and '*to the* park' respectively, we clearly see that unlike the argument PP, the adjunct PP does not do any semantic contribution to form aspectual role(s) of a sentence. If it is the case, then,

we might ask why we have to admit the structural difference between (2a), '*John ran in the park*', and (2b) ' *John ran to the park*.' When we have the lexical entries '*John*' and '*to the* park' led by the verb '*ran*' under the maximal projection VP, we are able to have the aspectual role MEASURE from the delimiter '*to the park*'. Thus, we have the delimitedness reading only and the existence of the aspectual role causes the projection of the $ASP_{EM}P$. The other unergative reading is impossible.

On the other hand, when we look into the sentence (2a), " *John ran in the park*," more carefully, we immediately know that there are two possible structures instead of one which Borer shows. Further, they are different from that of Borer's in the adjunct's position. Consider the following structures:

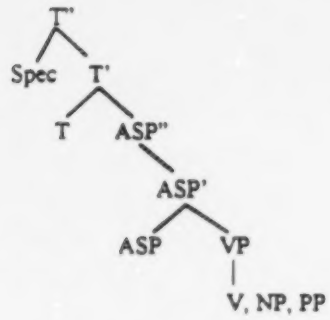
(5) Two Possible Structures of (2a), " *John ran in the park*."



The structures shown above are easily deducible from the two possible structures for " *John ran*," which are shown in (1). The PP '*in the park*' is an adjunct, so it is not incorporated into the semantics of the whole predicate as Borer assumes. (recall the condition (4)). In addition, the PP '*in the park*' is usually not supposed to do any contribution to the meaning of the predicate to form any aspectual role. All these pieces of evidence leads us to conclude that we do not have any motivation to have the locational PP '*in the park*' adjoined to aspectual nodes which are outside the lexical VP and therefore no syntactic distinction between them.[7] (6) will be the resulting structures concerning the argument so far:

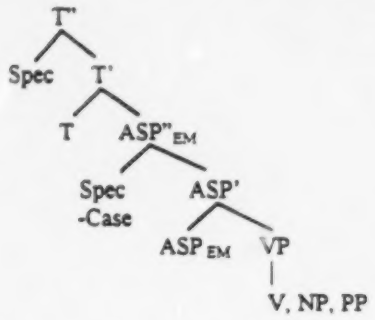
(6) Structures for Intransitives with a PP

a. Unerg. Reading with an Adjunct PP



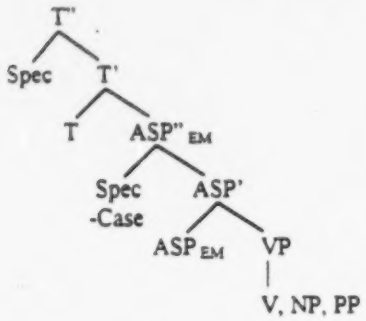
(ex.) John ran in the park.

b. Unacc. Reading with an Adjunct PP



(ex.) John ran in the park.

c. Unacc. Reading Only with an Argument PP



(ex.) John ran to the park.

Concerning the structure (6c) which is for the Unaccusative reading only, we might ask the question: "What if the PP, " *to the park* ", instead of the NP, "*John*" moves first to the Spec of the ASPP and then the NP, "*John*" moves to the Spec of the TP?" In actuality, this possibility is prevented in Borer's framework because the $ASP_{EM}P$ is associated with the assignment of the Accusative Case and the PP cannot be a Case recipient. We will return to this issue in Khym & Kookiattikoon (forthcoming).

2 Discrepancy in Grammatical Functions of Aspectual Functional Projections

The aspectual functional projections Borer (1993) offers are $ASP_{EM}P$ and $ASP_{OR}P$. The $ASP_{EM}P$ is projected when there is an aspectual role of MEASURE available from the entire predicate.[8] The aspectual role MEASURE is assigned to the Spec position by the Spec-head relationship only when the Spec of the $ASP_{EM}P$ is projected. That is, the Spec position is optionally projected. The ASPP is assumed for "interpretational reasons" and also, is responsible for the Accusative Case assignment, in which point it is very similar to

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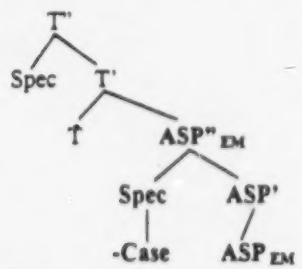
Chomsky's AGR_OP. On the other hand, $ASP_{OR}P$ is only for the aspectual role of ORIGINATOR which is mostly the same with AGENT or INSTIGATOR. At least one of the two aspectual roles, therefore at least one Aspectual node, should be projected in the structure. Unlike the $ASP_{EM}P$, the $ASP_{OR}P$ is only concerned with the assignment of the aspectual role. In this section, we will, firstly, argue that Borer's assumptions on the projection of the Spec of the $ASP_{EM}P$ has some problems. Secondly, we will argue against the discrepancy in grammatical function between the two aspectual projections, such as $ASP_{OR}P$ and $ASP_{EM}P$. Thirdly, we will argue against Enç's (1991) 'Partitive Case Hypothesis' which is adopted by Borer: it does not fit with that of English Case system. The solution will be maintained in section 3.

2.1. Available structures of $ASP\pm_{EM}P$ by Borer (1993)

The various structures of the $ASP_{EM}P$ which Borer (1993) assumes for Intransitives and Transitives are shown in the following:

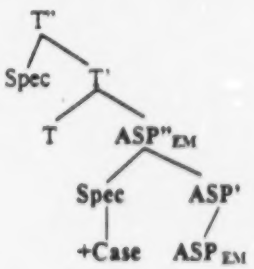
(7) For Intransitives : (a) for unaccusatives & (c) for unergatives, (b) ruled out

a.



Measure

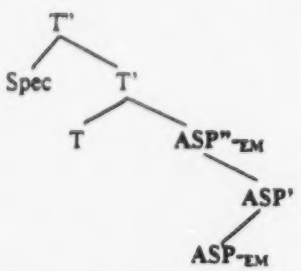
* b.



Measure

(ex.) The window broke.
John ran.

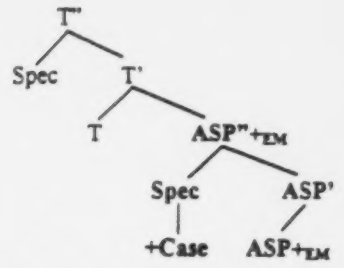
c



(ex.) John walked.
John ran.

(2) For Transitives : (a) for MEASURE reading & (b) for non-MEASURE reading.

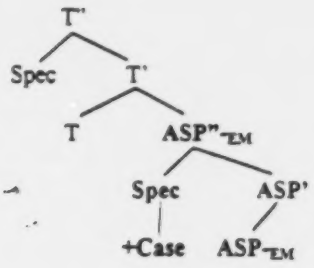
a.



Measure

(ex) Tom saw the film.
Tom ate the apple.

b.



(ex) Tom knows the answer.
Robin inhabited the house.

When we first focus on the matter of the projection of the Spec of the $ASP_{EM}P$ related with the MEASURE reading, the projection of the Spec of the $ASP_{EM}P$ for intransitives should be optional because "the full projection will invoke the MEASURE reading." This assumption implies that the unergative reading should have an unprojected Spec. That is, the $ASP_{EM}P$ should not be fully projected. This explanation does work as far as intransitives are concerned. However, when we apply this explanation to transitives, it reveals inconsistency. Let us consider the structures for transitives.

As we can see from (7: 2a) and (7: 2b), the Spec of the $ASP_{EM}P$ is fully projected However, for (7: 2b), the MEASURE reading is not allowed. The ASPP of (7: 2b) is specified as -EM though the maximal category is complete with the Spec projected. The reason Borer needs this variation is directly from her assumption that the fully projected $ASP_{EM}P$ is responsible for the Accusative Case assignment as well as MEASURE reading. In (7: 2b), all the direct objects need Accusative Case, and the Case is assigned through the Spec-Head relation of the ASPP. However, they are not allowed to have the MEASURE reading. Therefore, the assumption that "the fully projected $ASP_{EM}P$ triggers the MEASURE reading" is not universal.

Secondly, let us consider (7: 1a). The Spec of the $ASP_{EM}P$ is marked -Case. It should be so, since the subject should be associated with Nominative Case. Along the same line, consider (7: 1b) which is for the unergative reading. The Spec is not projected ,as we expect, to prevent the MEASURE reading. There is no need to add [-Case] to the Spec here because Case is assigned to the Spec position and the Spec is not there. However, we can think of another possible structure for the unergative reading. Consider next ((8a) is the repeat of (7: 1c) and (8b) is another possible structure.):

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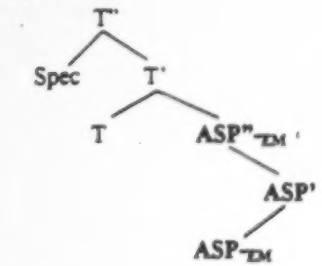
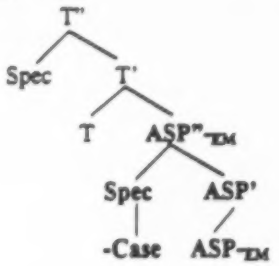
(8) Another Possible Structure for the Unergative Reading

a (= 7.1c)



(ex.) John walked.
John ran.

b.



(ex.) John walked.
John ran.

As we can see from the structure (8b), the structure surely allows the Unergative reading for '*John ran*', and '*John walked*'. There arises no Case-related problem. The NP under the VP will move first to the Spec of the $ASP_{-EM}P$. The NP neither fulfills the Case filter there, nor receives any aspectual role there, so that it has to move on to the Spec of the TP to get Case. It might land at the Spec of the $ASP_{OR}P$ during the movement. In actuality, there is no condition to prevent this movement in Borer's framework. However, this possibility is not explored. The only explanation available in Borer (1993) concerning this problem is that for intransitives, if the Spec of the $ASP_{EM}P$ is projected, then the MEASURE reading should be activated, while for transitives, the projection of the Spec might or might not activate the MEASURE reading, which is not quite attractive.

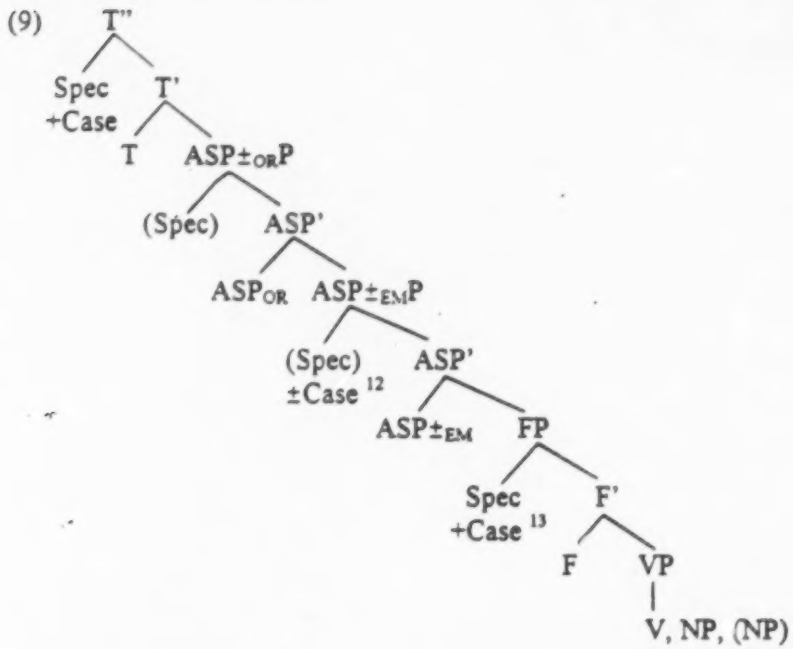
As we have shown above, Borer's assumption concerning the full projection of the $ASP_{\pm EM}P$ attached with the [±Case] assignment feature needs more explanation due to the following problems: firstly, there is no universal and systematic explanation concerning why the Spec of the $ASP_{EM}P$ is "optionally" projected.[9] Secondly, what determines the possible combination of the [±Case] feature and [± EM] aspectual feature for the Spec of the $ASP_{\pm EM}P$? That is, there is no sure reason available theoretically and empirically for one Aspectual maximal projection with two functions of Case and Aspectual role(s).[10]

2.2 Inconsistency in Functions of Two Functional Aspectual Projections

The functional projections Borer suggests are TP, FP, $ASP_{OR}P$ and $ASP_{EM}P$. And the latter two are Aspectual functional projections.[11] Given the two aspectual projections, we usually expect that the two will show and have the same characteristics and function(s). However, they don't. And this fact supplies us another problem for Borer's structure.

Let us consider first the aspectual categories and their functions. The following is a fully projected structure from Borer (1993, p.17):

(9)



As we can see from the fully projected structure above, there is a difference in role(s) between aspectual projections. That is, unlike the $ASP_{OR}P$, the $ASP\pm_{EM}P$ is associated with both Case and Aspectual role assignment. In addition, there is another inconsistency among all the functional/aspectual projections. All the other functional/aspectual projections except $ASP_{OR}P$ are able to discharge Case. And there is no explanation concerning why only the $ASP_{OR}P$ is defective in Case compared with all the other projections above the VP.

2.3 Partitive Case Hypothesis and English Case System

Consider the following data from Borer (1993, pp. 15-16):

(10) a. Kim built **the houses** (*for a year / in a year) --> M. reading
b. Kim built **houses** (for a year / *in a year) --> -M. reading
c. Kim built **some houses** / **many houses** (for a year / in a year) --> Ambiguous
d. Kim built **a house** / **two houses** (for a year / in a year) --> Ambiguous
e. Kim built **every house** (*for a year / in a year) --> M. reading

Focusing on the distinction of MEASURE only / ambiguity reading of the data in (10), Borer says that " the assumption that objects move to [SPEC, ASPP] in order to receive Accusative Case fails to provide any insight into the distinctions presented in (10 a-d)."

To explain this problem , she depends on the argumentation from the semantic perspective offered by Heim (1982) and the syntactic elaboration suggested by Diesing (1990) and Runner (1991).

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Her argument begins with the distinction between "definite/ specific/quantified Nps[14] and non-specific/ non-partitive NPs. The former NPs will move to the Spec of the $ASP_{EM}P$ to activate a MEASURE reading , and at the same time will receive Accusative Case. On the other hand, the latter NPs will neither be allowed to move to the Spec of the $ASP_{EM}P$, nor activate a MEASURE reading. With this argument, Borer actually changes the motivation of the movement of the direct objects from syntactic Case to semantic properties. The movement of direct NP objects to the Spec of the $ASP_{EM}P$ is conditioned by the Mapping Hypothesis offered by Diesing (1990). The Mapping Hypothesis is as follows (Borer (1993, p.16):

(11) The Mapping Hypothesis (Diesing, 1990)

: Material in the IP area of a clause (external to the VP) maps onto a restrictive clause and material in the VP maps onto the nuclear scope.

[Quantifier] [restrictive clause] [nuclear scope] (Heim, 1982)

With the Mapping hypothesis, Diesing insists that " non-quantificational NPs and non-specific NPs remain in the nuclear scope, functioning as variables subject to existential closure."

Borer's argument is strongly supported by evidence from Germanic Object Shift observed by Kratzer (1989), Diesing (1990, 1993) and Deprez (1993). They argue that Germanic definite and quantificational NP objects move outside the VP and escape nuclear scope, but indefinite NP objects don't.

The definites and quantifiers are "precisely" the direct objects which function as a MEASURE in (10 a & b). Based on the observations, she argues that the motivation of the direct specific/quantificational NP objects to the Spec of the the $ASP_{EM}P$ is exclusively caused by the Mapping Hypothesis, not by Case necessity. "While this is so," she still maintains, " Accusative Case is also associated with that position, and so, NPs landing at the position will be thus marked."

To handle the Case assignment problem of the non-specific / non-partitive NP objects, Borer introduces another functional projection , FP, which is above the VP, but below the the $ASP\pm_{EM}P$. And when the FP is projected, it implies the $ASP\text{-}_{EM}P$ with the Spec not projected.

Though Borer's theory for the distinction between ±[specifics / quantifiers / definites] works, it has to explain the following problems. First, her explanation lacks theoretical consistency in dealing with the same aspectual phenomenon of [-EM]. Consider the following data all of which have non-MEASURE reading:

(12) a. Kelly knows the answer.
Robin inhabited the house.

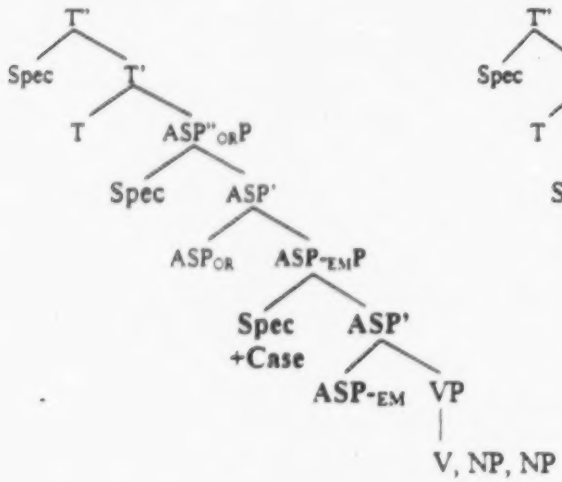
(Borer 1993, p.14)

b. Kim built houses.
Robin climbed some mountains. (non-partitive reading)

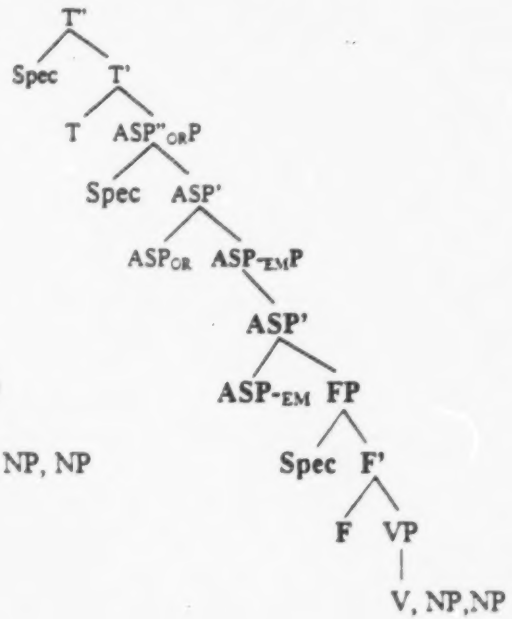
(ibid., pp.15-16)

The only difference between the (a) and (b) data is that the sentences in (12a) cannot have a MEASURE reading though definite NPs instead of indefinites are there, while in (12b), we can have a MEASURE reading if we have definite / specific / quantificational NPs in the position which is taken by the indefinite / bare-plural NPs. However, is the difference big enough to cause different structures for them? The following show the difference in structure respectively:

(13) a. Structure of (12a)



b. Structure of (12b)



Borer's insight into two different structures for transitives with one direct argument might be successful in dealing with the difference between them ; that is , unlike (12a) , (12b) is able to have a MEASURE reading with specific/definite direct NP objects. However, there might be other argumentation concerning this matter.

Surely the data, (12a) and (12b) are different from each other in whether they can have a MEASURE reading. However, if we only focus on the aspectual role of MEASURE, they

are exactly the same. Both of them have a non-MEASURE reading. The existence of corresponding sentences of (12b) with definite / specific NP objects and thus, with a MEASURE reading should not influence the analysis of MEASURE/non-MEASURE reading of sentences in (12b), since they are actually different in their lexical entries. Different lexical entries cause different aspectual roles. They cannot be compared together.

Secondly, the data Borer shows to support her distinction between definite / specific / quantificational NPs and indefinite / non-specific NPs in terms of different structures can count another counter-argument against her own. Consider the following data:

(14) a. John ran.
b. John ran in the park.

(15) a. Kim built some houses / many houses (for a year / in a year)
b. Robin climbed some mountains / many mountains (for two days / in two days)

(14) is ambiguous in its reading. Both readings - MEASURE/non-MEASURE - are possible here.[15] (15) shows the same phenomenon. When the quantified NPs are associated with "a subset reading - that is, a partitive reading -", then a MEASURE reading should be provoked. On the other hand, if they are just "encoding a numerical statement of some sort", then there will be no MEASURE reading.

Quite naturally, we might ask why this is possible. They have the same lexical entries under the VP. In actuality, this question should have been asked before we proceeded into section 1. Recall Borer's explanation concerning the two possible readings of the sentence, " *John ran*."

> " ... [T]urning now to he intransitive motion verbs such as *run*, note that certainly they do not play a delimitation. However, the argument of such a verb, other than being interpreted potentially as an AGENT, can also be interpreted as a MEASURE. Specifically, in *John ran*, *John* could be understood as measuring out the running event. ... " (Borer 1993, p.12)

Along the same line, when we have the lexical entries { built, John, some houses } for the projection of " *John built some houses*," if we understand the quantified NPs as a subset or a part of a whole, then we can have a MEASURE reading, while ,if we understand them in the other way, then we have a non-MEASURE reading. To derive (a) certain aspectual role(s) from the same lexical entries is clearly up to the speaker's state of mind or understanding of the event. Borer's work should be on this basic implicit assumption.

Thirdly, Enc's (1991) Partitive Case Hypothesis doesn't fit with the English Case system. In order to show a clear difference between specifics and non-specifics and to support her argument for different structures for the two kinds of direct NP objects, Borer depends on two independent pieces of evidence. One is the evidence from Turkish observed by Enc (1991), where "specifics are overtly marked as Accusatives, but non-specifics are unmarked for any Case." In Turkish, "non-specific NPs which remain within the nuclear

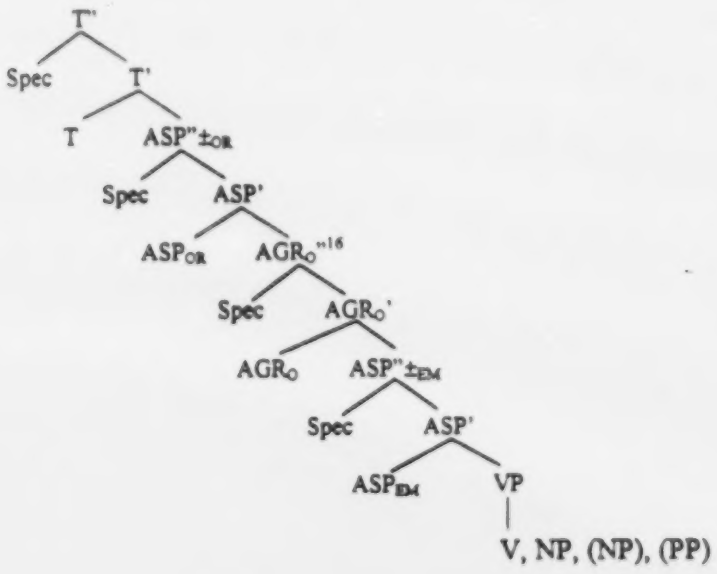
scope incorporate into the V, forming a complex verb", which is clearly not the case for English.

The other piece of evidence is from German and Finnish in which the Case distinction between specifics and non-specifics is realized as a distinction between Accusative Case and Partitive Case. The evidence from German and Finnish leads her to set up another functional projection, FP, within a nuclear scope. The Case which will be assigned in the Spec of the FP is a Partitive Case. The issue on whether the Partitive Case is applicable to the English indefinite / non-specific direct NP objects is quite open for more research. In addition, according to our argument, the distinction between definite / specific and indefinite / non-specific NPs is unnecessary.

3 A New Structure for the Event Aspectual Syntax

Arguing against some problems of Borer's theory, we have shown the following: first, the $ASP_{EM}P$ should not have two independent functions such as Case and Aspectual role assignment. It should have the same number or same kind of function with the $ASP_{OR}P$. Therefore, the split of the functions possessed by the $ASP_{EM}P$ is needed. Second, the directional PPs such as '*in the* park,' and '*to the* park' are not different in their syntactic position. They own the same syntactic position. The only difference is whether or not they help to determine an aspectual role or not. Third, the structural difference between definite / specific / quantified NPs and indefinite / non-specific NPs is not necessary for English. That is, in English, we don't need to have three positions for Case assignment. Two is enough. The difference concerning MEASURE / non-MEASURE reading can be derivable from the difference of aspectual roles of a whole predicate.
The new structure is presented in the following:

(16) New Structure



The conditions needed for the operation are as follows:

1. Arguments under the VP are unordered and unhierarchical.
2. Aspectual roles are predicted from the compositional meaning of a whole predicate before projection of a structure.[17]
3. Every proposition must have at least one fully projected aspectual maximal category. (Borer 1993, p.14)
4. MEASURE includes Specificity, too. However, [±MEASURE] is determined by the whole compositional meaning of the entire predicate.
5. Unnecessary maximal projections are not projected. (Grimshaw 1995)
6. Bottom derivation is pursued.
7. Derivation stops when it gets Case.
8. Shortest Movement is required.
9. Functional projections whose properties are already saturated are invisible for the following derivation.

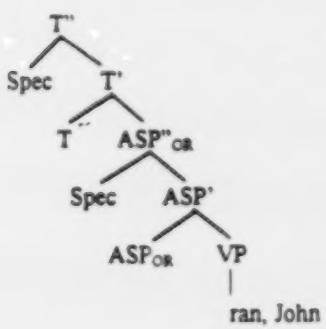
Based on the conditions and the structure above, let us consider how the new system explains the data. The data we have discussed so far are repeated in the following.

(17) a. John ran.
b. Kim ate the apple.
c. Tom knows the answer.
d. Tom built houses.
e. Kim built some houses / many houses.

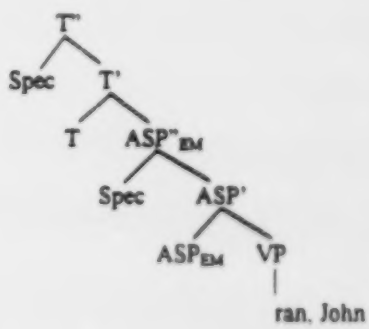
Concerning (17a), "*John ran.*", which is possible for both reading, the new structures will be as follows:

(18) *John ran.*

a. Unergative Reading

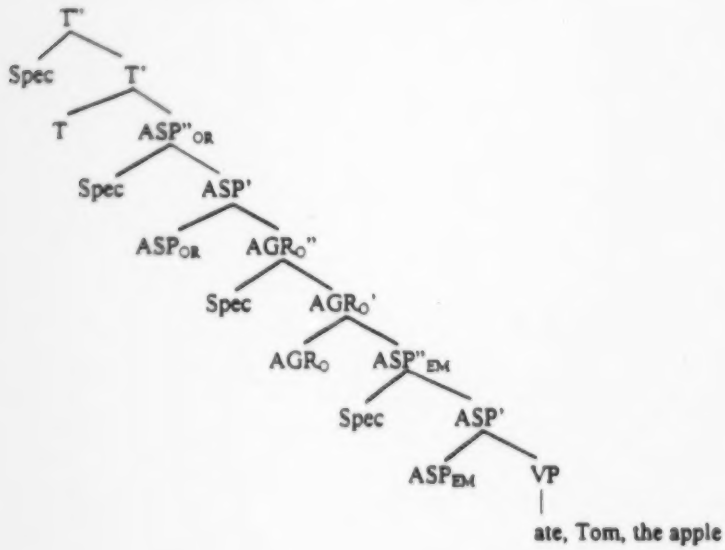


b. Unaccusative Reading



(17b), "*John ate the apple.*", might have two possible variations according to which argument will move first. However, there will be no difference in aspectual roles.

(19) *Tom ate the apple / The apple ate Tom.*



Consider the derivation in detail. Because there are two arguments led by the verb, two Case-related functional positions will be expected to project. When the speaker picks up '*the apple*' first for movement, the other argument '*Tom*' is automatically determined to be a subject. With the help of the vague syntactic arrangement of arguments, the compositional meaning of the whole predicate is derived and aspectual roles become available. Then, syntactic functional/aspectual projection follows. (Recall there is a possibility in which aspectual role(s) for a sentence led by transitives might not be the same according to which argument moves first to the Spec of $ASP_{EM}P$. This is discussed briefly in footnote 17). '*the apple*' moves to the Spec of the $ASP_{EM}P$[18] and there MEASURE reading is activated. Next, '*the apple*' moves further to get Case. The shortest target is the Spec of the AGR_OP. And there, it receives the Accusative Case. The derivation of '*the apple*' ends there, because the derivation has earned Case. When another argument '*Tom*' moves next, the available positions are [Spec, $ASP_{OR}P$] and [SPEC, TP] because the other functional projections such as the $ASP_{EM}P$ and the AGR_OP are invisible any more. By the shortest move condition, '*Tom*' moves to the Spec of the $ASP_{OR}P$ and then to the Spec of the TP.

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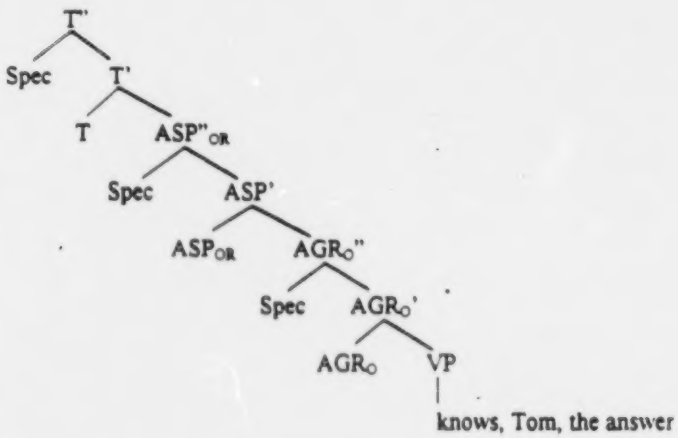
(17c) , "*Tom knows the answer,*" will have the following structure.

(20) *Tom knows the answer.*



There will be no $ASP_{EM}P$, because the entire predicate does not imply the EM reading. However, the direct object '*the answer*' needs Accusative Case. So it moves to and receives Case in the Spec of the AGR_OP.

We might have a question about the definiteness of the argument '*the answer*." Though the NP has a definite article and the whole predicate allows the definite/specific reading, it is not enough to be a MEASURE, because the whole predicate is usually assumed to be that of STATE. The direct object *the answer* does not measure out an event, nor is the event measured or delimited in any way. To fulfill the requirement saying there should be at least one fully projected aspectual maximal category, the $ASP_{OR}P$ should appear.

The derivation of (17d), "*Tom built houses*" is almost the same with that of (17c) "*Tom knows the answer.*"

Concerning (17e) , *Kim built some houses / many houses* , whether or not the ASPEMP will be projected is entirely dependent on the speaker's understanding of the event or 'state of mind. If the quantificational modifiers such as '*some*', and '*many*' are understood by the speaker in such a way as to express a subset reading or a partitive reading as is often called, then, the structure will have the $ASP_{EM}P$ projected and the MEASURE reading will be activated. If the reading of them is otherwise, then the structure will have no $ASP_{EM}P$. However in either case, the AGR_OP will be there.

4 Conclusion

In this paper, we have pointed out some problems of Borer's (1993) theory on the event aspectual syntax which is mainly to explain the alternation between uneragtives and unaccusatives. To solve them, we have suggested another aspectual functional structure, in which we split Borer's $ASP_{EM}P$ into two independent functional projections one of

which is truly syntactic functional projection, AGR_OP, and the other is an aspectual functional projection, $ASP_{EM}P$. By splitting the original ASPEMP into two with a distinct function, we could attain not only the consistency in terms of the assignment of aspectual function between aspectual functional projections such as ASPEMP and ASPORP, but also consistency in terms of the number of the function each of the projection is doing among all functional projections

We have argued against Enc's (1991) Partitive Case Hypothesis and argued also against some observations on the different syntactic behavior between definite/specific NP objects and indefinite/non-specific NP objects collected from German and Finnish.

We have discussed that speaker's understanding of the event (or state of mind) is crucial to decide which aspectual roles are available when an entire predicate is given. Concerning the mechanism through which aspectual roles are driven from the entire predicate , and concerning how much are we dependent on syntax (or at least on the arrangement of lexical entries) in order to derive aspectual roles , much more work seems to be needed.

NOTES

1. As numerous studies have observed, "the unaccusative/unergative alternation is not nearly as stable and lexical-entry dependent as it is occasionally presented." "The typical unergative verbs such as *sprongen* 'jump' in Dutch and *correre* 'run' in Italian, which take an unergative auxiliary (*hebben* and *avere* respectively) and which do not allow *ne*-cliticization, exhibit the full range of UNACCUSATIVE characteristics, selecting *zijn* and *essere* and allowing *ne*-cliticization if a PP specifying a terminal point of the motion is added. Dutch impersonal passive, typically restricted to unergatives, can occur with the unaccusative verbs *vallen* 'fall' and *stronken* 'stink', providing an intention is ascribed to the argument (fall on purpose, stink on purpose). Finally, the Hebrew verbs *naval* 'wilt' and *ne'elam* disappear' (among many others) can behave both as unaccusatives, in allowing a possessor dative, and as unergatives, in allowing a reflexive dative." (Borer 1993, p 2).
For more detailed data, refer to Borer (ibid., pp.1-2).

2. Though many linguists on the lexical driven-approach are different in their accounts, they share an effort to "deterministically project a grammatical level of representation based on the properties of individual lexical entries."(ibid., p. 1)

3. The argument(s) of '*derive* ' and 'wilt' will be introduced as follows(ibid., p.8):

(a) V^{MAX}
|
derive, NP, NP

(b) V^{MAX}
|
wilt, NP

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4. Tenny argues that unlike the other directional PPs, the directional PP such as '*to the park*' which would delimit the event by referring to the property of the MEASURE is an indirect argument. This position is shared by Hoekstra and Mulder (1990) as well as Borer (1993).

5. " I will further assume that all adjunct PPs are projected outside the lexical VP, adjoined to aspectual nodes. ... [T]he PP in (3b) is an argument, and I will assume that it is dominated by the lexical V projection." (Borer 1993, p. 13)

6. Therefore, we can say that in actuality, the structural difference shown in (2) is deducible from the condition (4).

7. Concerning the assignment or licensing of the aspectual role of delimitedness/ Event Measure in '*John ran to the* park' and concerning which element among ***John*** , **to the park** , **PRO**, or **some other constituent** will move to the Spec of the lower functional projection, $ASP_{EM}P$, we will show the detailed derivation later in Khym & Kookiattikoon (forthcoming). Especially concerning which element moves to the Spec of the ASP_{EM} to get the aspectual role, we will argue against Ritter and Rosen's (1997: forthcoming) approach in which *PRO* moves, and also against Levin and Rappaport Hovav (1995) in which *John* moves..

8. Concerning the relationship between a MEASURE and a DELIMITER, Borer mentions that " the existence of a DELIMITER implies the existence of a MEASURE, but the reverse implication does not hold." (Borer (1993, p. 12)

9. We showed in (8b) that the projection of the Spec of the ASP-$_{EM}$P for ergative intransitives need not be optional.

10. Concerning the movement of non-specific direct objects to the Spec of the ASPP , Borer gives up her assumption that the assignment of both aspectual role and Accusative Case is dealt with in the Spec of the $ASP_{EM}P$ simultaneously. Instead, she introduces another functional projection, FP, which is located above the VP but below the $ASP_{EM}P$, which is responsible only for Partitive Case assignment for indefinites/non-specifics. However, still we have to have the ASP-$_{EM}$P over the VP with the Spec unprojected. Though her new FP can explain the data from German, Finnish, and Turkish non-specific objects, still we cannot find any plausible explanation concerning the problem we are now discussing in this section. In addition, with that assumption, the whole shape of the theory gets complexed.

Why she insists on the ASPP with two separable functions such as Case and Aspectual role(s) is because her framework is entirely based on the aspectual role of MEASURE, whereby she could easily explain the alternation between unergatives and unaccusatives and whereby she could also easily include the cases of transitives within the framework. However, we still lack justification on the two functions of one functional aspectual projection. In section 3, we will discuss this problem in detail.

11. The two other functional projections such as TP and FP can not be aspectual projections, since they are only responsible for the Case assignment, not for the aspectual role assignment. However, one might say that unlike the TP which is certainly non-aspectual, the FP might be considered as an aspectual projection, since the FP causes the ASP-$_{EM}$P and supports some semantic information for non-specific/indefinite reading. In this respect, there seems not be a clear-cut distinction between the FP and the other two aspectual projections and in addition, there seems to be some difference between the TP and the FP themselves.

12. The Case concerned with this position is Accusative Case.

13. The Case concerned with this position is Partitive Case. Refer to de Hoop (1992) for more detailed argument concerning the distinction between Accusative Case and Partitive Case.

14. Quantifiers giving rise to a specific partitive interpretation and '*every*'.

15. We have discussed this issue in section 1.

16. AGR$_O$P is only responsible for Accusative Case assignment as it is in Chomsky (1993).

17. Concerning exactly when we come to know from the lexical lists if there is a certain aspectual role , there should be more exploration. However, we might havean argument for this from the Economy Principle. Consider the following sentence:

a. John built many houses.

As we have discussed in section2.3., this sentence is ambiguous in its reading. If the quantifier 'many' is associated with a subset reading - or with a partitive reading as it is sometimes called-, then the object NP, 'many houses', can function as a MEASURE. On the other hand, if it just "encodes a numerical statement of some sort", no accomplishment seems to be implied. That is, no MEASURE is expected. However, we should not miss the fact that both readings are derived from the exactly same lexical entries as far as 'many houses' is picked up for movement first. The lexical entries under the VP will be as follows:

b. VP
   |
   {built, John, many houses}

In order for the two readings to be derived mainly from the same lexical entries {many houses}, together with minor others here such as {built, John}, we have to have some pre-determined meaning of the quantifier *many* before we project maximal categories into the syntax thereafter. Otherwise, we will have unnecessary or unwanted , but still

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legitimate aspectual nodes, which is not an economical derivation. If we take another possible output into consideration such as 'Many houses built John," , then the situation will get more complicated and the global economy of derivation will surely cause complexity of computation. If this argument is correct, then Economy Principle will say more for our argument here. Therefore, we can say that aspectual roles should be derived before or at least at the same time when the first argument to move is picked up by the speaker.

18. In our system, ASP-$_{EM}$P is not possible. If the MEASURE reading is not available from the entire predicate, then, the ASP$_{EM}$P is not projected.

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